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## INNER SPACE by Robert Carolan

Spaceward Graphics has just released version 2.0 of Satori, its resolution independent paint and composition tool. Robert Carolan discovers space-age effects for a 20th century price

Cambridge-based Spaceward Graphics has just introduced version 2.0 of Satori, its resolution independent paint and composition tool. Quite simply, this is the package you've been waiting for if your work typically involves painting and correcting images big enough to plonk on the side of a bus!

Alternatively, if you feel creativity is curtailed while you wait for brush strokes to react to cursor movements, then this real-time imaging tool is certainly worth exploring.

Spaceward Graphics originally thought the product would reside at the high-end of the market, as an advanced object-based paint, composition and graphics solution. However, the demand for such a tool exceeded everyone's expectations. The product was opened up to a wider audience, the price was reduced and requests from users for changes and additions were implemented.

Since improving its productivity, Satori has been adopted by a number of high profile producers of film, video and multimedia, clamouring for more than the current crop of popular paint tools offers. There is more colour (64 bits of it), more speed (real-time) and higher resolution (you can paint at over 5m<sup>2</sup> at 300dpi with brushes larger than 64,000x +64,000 pixels, in real-time).

After five years of painstaking development, Spaceward Graphics now has a core engine that appears only to be limited by imagination. Totally at home with massive still image files, or happy loading up large sequences of broadcast video frames for rotoscoping, Satori's core environment delivers on the promise of 'next generation' technology.

### FILE FORMATS

For Satori to offer such advanced features, Spaceward Graphics had to come up with new ways of looking at and describing image files. It has also had to incorporate existing formats without hampering the performance of its thoroughbred. Satori refers to any documents it generates as a canvas with the extension CVS in the file name. Canvas files are normally very small and suitable for transfer via networks or floppy disks.

Once completed, art work can be rendered at any resolution, aspect ratio or colour depth. When you zoom into a canvas, the software regenerates the view at any resolution, leaving the image free from pixels while you work. This makes the product ideal for working on huge file, especially as many existing hardware/software combinations don't offer enough head room.

Imported bitmaps of fixed pixel resolution have limitations in a pixel-independent environment. But Satori has a number of ways of dealing with this problem. A file format for resolution independent rasters (which holds a pyramid of copies of the original raster at different scaling resolutions) has been combined with a loss-less compression method. This determines the most suitable compression algorithm for each tile of the pyramid. Once converted, raster-based images can also be handled by Satori in real-time.

### FIRST IMPRESSIONS

The software loads colossal image file that would have other packages grinding to a halt or simply refusing to try. Satori's 64 bits per pixel provides a mind-numbing 281 trillion colours with 65,500 levels of fully anti-aliased opacity for masks. More than enough for any amount of subtle colour correction work. Such capabilities don't go unnoticed in video houses, where demanding production values insist on this level of control.

Satori's rotoscoping facilities make it an obvious solution for video houses requiring paint tools for workstations at desktop prices. Rotoscoping is frequently used in feature films and commercial productions to 'cut out' actors or props against one background, and superimpose them against another. This creates a moving matte or alpha channel, allowing for clever trickery and forming the backbone of many digital effects for film and broadcast.

### NEW FEATURES

Early versions of Satori's interface had a workstation-like quality. This was fine for the high-end environments, at which the package was targeted. But it was not really suitable for a broader market.

Version 2.0 is a direct response to requests for familiar features, such as floating tool palettes and tear-off strips. The rest of the interface however, remains unashamedly unchanged. It offers a flat interface, and lots of space to work with, and the buttons have names instead of the cryptic icons so common on other packages.

It is also possible to clone from an external source on the new version, and the undo features take full advantage of Satori's object-based environment. This offers interactive, real-time undo by way of a small, tidy animation control palette.

Version 2.0 also offers automatic drop shadows, embossing, object-based geometry drawing tools and powerful layering and masking facilities. But perhaps the most significant improvement is the extension of the resolution independent paradigm, into areas such as user defined brush shapes. Any images created by the artist can be saved as a resolution independent canvas files and applied as a brush profile. This makes Satori's brush controls amongst the most extensive and flexible the industry has to offer.

If you're fed up pushing pixels all day and you're up against impossible deadlines, Satori provides a very serious alternative in a market normally devoid of genuinely useful innovation.